

Response to Office Action Mailed February 18, 2009

A. Claims in the Case

Claims 1-10, 13, 15, 16, and 18-22 have been rejected. Claims 11-12, 14, and 17 have been objected to. Claim 1 has been amended. Claims 1-22 are pending in the case.

B. Claim Objections

The Examiner has indicated that claims 11-12, 14, and 17 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant would like to thank the Examiner for the indication of allowable subject matter. Pursuant to the discussion provided herein, Applicant respectfully submits that all claims, including the base claims, are in condition for allowance.

C. The Claims Are Not Anticipated By Mori et al. Pursuant To 35 U.S.C. § 102(a and e)

The Examiner has rejected claims 1-2, 9, 13, 16, 19, and 21-22 under 35 U.S.C § 102 (a and e) as being anticipated by U.S. Publication No. 2004/0065762 to Mori et al. ("Mori"). Applicant respectfully disagrees with this rejection.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 89 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

Applicant respectfully submits that Mori at least fails to describe or suggest all of the features of Applicant's claims.

Applicant's claim 1 includes, but is not limited to, the following features:

a rolling bearing and a freewheel provided with at least one jamming element, the rolling bearing and the freewheel being mounted adjacent between the inner element and the outer element

Support for these combined claim features can be found in Applicant's specification, which states:

As can be seen in FIGS. 1 to 4, the freewheel device, reference number 1 in its entirety, includes a tubular sleeve 2 with its axis 3, a rolling bearing 4 mounted on the sleeve 2, an outer element 5 mounted on the rolling bearing 4, a freewheel 6 mounted on the sleeve 2 and a friction element 7 mounted between the outer element 5 and the freewheel 6.
(Published Specification; Paragraph 46)

.....
The freewheel 6, mounted adjacent to the rolling bearing 4, includes an outer race 14, for example of the solid type, whose bore forms a slipping raceway 14c, a row of jamming elements 15, here cams, a cage 16 provided with windows in which are placed the jamming elements 15 in the form of cams and a spring 17 for the return of the jamming elements 15 keeping said jamming elements in permanent contact with the raceways. The jamming elements 15 are placed radially between the outer cylindrical surface 2c of the sleeve 2, axially between the rolling bearing 4 and the end radial surface 2b of the sleeve 2, and the raceway 14c of the outer race 14.
(Published Specification; Paragraph 50)

The Office Action appears to rely on Mori to teach each of the claim features present in Applicant's claims. For example, the Office Action states:

The Mori et al. patent teaches a freewheel bearing device, of the type having an outer element 102, an inner element 112 placed in the outer element 102, and a freewheel 130 provided with at least one jamming element 134, placed between the inner element 112 and the outer element 102 to leave free a rotation movement in one direction between the outer element and the inner element and to transmit a torque in the other direction between the outer element and the inner element, wherein the freewheel 130 comprises a

race 92 provided with an inner cylindrical surface and an outer cylindrical surface, substantially aligned on a radial plane perpendicular to the axis of rotation of the device, and a torque limiter member 90 capable of limiting the torque transmitted by the freewheel 130, the torque limiter member 104 being placed radially between said race 92 and the outer element 102. See Figs. 1 and 3.
(Office Action; Pages 2-3, Item 5)

It appears that Mori is directed to a webbing winding device and a clutch mechanism. In summary, Mori discloses:

A webbing winding device in which a breadth dimension of a torque limiter is less than an axial direction dimension of an external gear. A rotation disc, the torque limiter or the like is wholly disposed, along a radial direction of the external gear, between the external gear and a peripheral wall of a baseplate. Further, members such as pawls, a rotation disc and the like are disposed, along a radial direction of the peripheral wall, between the peripheral wall and an adaptor, and these members are accommodated at an inner side of the external gear. Consequently, a thickness dimension (axial direction dimension) of a clutch is practically the same as an axial direction dimension of the external gear, and this is extremely thin.
(Mori; Abstract)

However, Applicant submits that there seems to be no teaching or suggestion by Mori directed to a roller bearing. Therefore, it appears that Mori at least fails to disclose the feature of “a rolling bearing and a freewheel provided with at least one jamming element, the rolling bearing and the freewheel being mounted adjacent between the inner element and the outer element” in combination with the other features of Applicant’s claims.

Furthermore, Applicant’s claim 1 also includes, but is not limited to, the following features:

wherein the at least one jamming element is mounted between, and in contact with, one of the outer and inner elements, and a race of the freewheel

The Office Action seems to equate base plate (92) of Mori with the race of the freewheel in Applicant’s claims. Applicant respectfully disagrees with this interpretation of Mori. Regarding base plate (92), Mori teaches:

As shown in FIG. 1, the clutch 90 is provided with a base plate 92, which serves as an intermediate rotating body. At the base plate 92, a substantially ring-shaped peripheral wall 96, which serves as an intermediate peripheral wall, is formed along an outer peripheral portion of a circular disc-form base portion 94. Thus, the base plate 92 is formed in a tubular shape with a bottom (or a shallow bottomed tray shape), a dimension of this tubular shape in an axial direction thereof being extremely short.
(Mori, Paragraph 88)

.....

At a radial direction outer side of the adaptor 112, a pair of bosses 124 is formed at the base portion 94 of the base plate 92. Each of the bosses 124 is formed in a substantially circular tube shape, and is provided standing toward the axial direction one side from the base portion 94. These bosses 124 are formed so as to face one another across the round hole 115. A pawl 130, which serves as a coupling member, is provided at each of the bosses 124.

Each of the pawls 130 is provided with a main body 132. The main body 132 is formed in a ring shape with an internal diametric dimension very slightly larger than an external diametric dimension of the boss 124. The boss 124 is fitted into the main body 132 such that the boss 124 passes through the main body 132. Thus, the pawl 130 is supported to be rotatable about the boss 124.
(Mori, Paragraphs 97-98)

In light of the cited excerpt, Applicant notes that Mori does not appear to teach base plate (92), as the functional or structural equivalent of a race. Mori appears to teach base plate (92) comprises bosses (124) fitted into the main body (132) of pawls (130). The Office Action seems to equate pawls (130) with the freewheel of Applicant's claims (an assertion with which Applicant does not necessarily agree). Mori goes on to teach that "the pawl (130) is supported to be rotatable about the boss (124)." Thus, base plate (92) does not appear to function as a track or channel in which [pawl (130)] rolls or slides. Rather, it seems that that pawl (130) is configured to rotate about an axis provided by boss (124) extruded from base plate (92). As such, Applicant submits that Mori at least fails to teach the feature of "wherein the at least one jamming element is mounted between, and in contact with, one of the outer and inner elements, and a race of the freewheel" in combination with the other features of Applicant's claims.

Moreover, Applicant's claim 1 also includes, but is not limited to, the following features:

a torque limiter member capable of limiting the torque transmitted by the freewheel, the torque limiter member being placed radially between the race and the other one of the outer and inner elements with which the at least one jamming element is not in contact.

Support for these combined claim features can be found in Applicant's specification, which states:

The friction element 7 has the shape of a ring open over a small angular sector, for example of the order of a few degrees. The friction element 7 is, in axial cross section, V-shaped with two axial flanges and may be made of rolled metal sheet. In other words, the friction element 7, in axial section, includes a small diameter axial portion 7a, a radial portion 7b extending outward from one end of the axial portion 7a, an axial portion 7c extending opposite the axial section 7a from the large diameter end of the radial portion 7b, a radial portion 7d extending inward from the free end of the axial portion 7c and an axial portion 7e extending opposite the axial portion 7a from the small diameter end of the radial portion 7b. The axial portions 7a and 7e have a substantially identical diameter and are in contact with the outer surface of the solid race 14, the free end of the axial portion 7a being placed close to the rib 14a and the free end of the axial portion 7e being placed close to the rib 14b. The friction element 7 is symmetrical relative to a radial plane passing through the middle of the axial portion 7c. The axial portion 7c is in contact with the bore 9b of the outer element 5. The friction element 7 may be provided with a local or general coating to improve its friction or anti-corrosion properties.
(Published Specification; Paragraph 52)

Again, depending on the teachings of Mori, the Office Action states:

The Mori et al. patent teaches ... a torque limiter member 90 capable of limiting the torque transmitted by the freewheel 130, the torque limiter member 104 being placed radially between said race 92 and the outer element 102.
(Office Action; Page 3, Item 5)

As was previously noted, Mori does not appear to teach or suggest the freewheel race of Applicant's claims. Thus, it seems that Mori also at least fails to teach the feature of "a torque limiter member capable of limiting the torque transmitted by the freewheel, the torque limiter member being placed radially between the race and the other one of the outer and inner elements

with which the at least one jamming element is not in contact” in combination with the other features of Applicant’s claims.

D. The Claims Are Not Anticipated By Li et al. Pursuant To 35 U.S.C. § 102(b)

The Examiner has rejected claims 1, 3-6, 10, 15, 18, and 20 under 35 U.S.C § 102(b) as being anticipated by U.S. Publication No. 2003/0051960 to Li et al. (“Li”). Applicant respectfully disagrees with this rejection.

Applicant’s claim 1 includes, but is not limited to, the following features:

a rolling bearing and a freewheel provided with at least one jamming element, the rolling bearing and the freewheel being mounted adjacent between the inner element and the outer element

Applicant respectfully submits that Li at least fails to describe or suggest all of the features of Applicant’s claims. The Office Action appears to concede this, stating:

The Li et al. publication lacks a teaching of the bearing being a rolling bearing.
(Office Action; Page 5, Item 8)

Still, the Office Action goes on to state:

The Li et al. patent teaches a freewheel bearing device, of the type comprising an outer element 40, an inner element 44 placed in the outer element 40, and a freewheel 71 provided with at least one jamming element 74, placed between the inner element 44 and the outer element 40 to leave free a rotation movement in one direction between the outer element 40 and the inner element 44 and to transmit a torque in the other direction between the outer element and the inner element, wherein the freewheel 71 comprises a race 46 provided with an inner cylindrical surface and an outer cylindrical surface, substantially aligned on a radial plane perpendicular to the axis of rotation of the device, and a torque limiter member 60 capable of limiting the torque transmitted by the freewheel 71, the torque limiter member 60 being placed radially between said race 46 and the outer element 40. See Fig. 2.
(Office Action; Page 4, Item 6)

It seems that Li is directed to “[a] torque-limiting accessory drive assembly comprising a pulley to transfer torque to an accessory drive system” (Li; Abstract). Applicant notes that Li teaches bearing (42) “disposed between the FEAD pulley 40 and the engine power take-off 32” (Li; Paragraph 14). However, Li does not appear to teach bearing (42) as being mounted adjacent to a freewheel element (See FIG. 2). Thus, Applicant submits that Li at least fails to teach the feature of “a rolling bearing and a freewheel provided with at least one jamming element, the rolling bearing and the freewheel being mounted adjacent between the inner element and the outer element” in combination with the other features of Applicant’s claims.

Applicant’s claim 1 further includes, but is not limited to, the following features:

wherein the at least one jamming element is mounted between, and in contact with, one of the outer and inner elements, and a race of the freewheel

The Office Action appears to equate elements (71) and (74) of Li with the freewheel and jamming elements respectively of Applicant’s claims (assertions with which Applicant does not necessarily agree). Regarding elements (71) and (74), Li teaches:

A self-energizing, contracting spring, one-way clutch, is generally shown at 70. FIG. 3 depicts the one-way clutch 70 in cutaway view for illustrative detail. The oneway clutch 70 utilizes a wound spring member 74 that operatively disposed about the coextensive annular surfaces 52 and 54 of center hub 44 and intermediate race 46. The spring 74 is wrapped about both the center hub 44 and the intermediate race 46 in interference fit. The interconnection between the center hub 44 and the intermediate race 46 through the wound spring 74 functions to transfer torque between the hub and the intermediate race. (Li; Paragraph 17)

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The disengagement sleeve 72 has an inner diameter slightly larger than the spring outer diameter to allow for the winding and unwinding action of the spring 74. As best seen in FIG. 2A, the disengagement sleeve 72 has an extension tab 76 with a blunt or squared face 78 that extends inward from the inside diameter of the sleeve 72 to meet and oppose the squared inner end 71 of the spring 74 along the inner most end of the center hub 44. (Li; Paragraph 20)

According to Li, spring (74) and its squared inner end (71) are “operatively disposed about the coextensive annular surfaces (52) and (54) of the center hub (44) and intermediate race (46).” Thus, Applicant notes that inner end (71) seems to be mounted radially outside of center hub (44) and intermediate race (46), as opposed to between them (See FIG. 2). As such, Applicant submits that Li at least fails to teach the feature of “wherein the at least one jamming element is mounted between, and in contact with, one of the outer and inner elements, and a race of the freewheel” in combination with the other features of Applicant’s claims.

E. The Claims Are Not Obvious Over The Cited Art Pursuant To 35 U.S.C. § 103(a)

The Examiner has rejected claims 7-8 as being unpatentable over U.S. Publication No. 2003/0051960 to Li et al. ("Li") in view of U.S. Publication No. 2002/0148697 to Muramatsu et al. ("Muramatsu"). Applicant respectfully disagrees with this rejection.

Applicant submits that claims 7-8 are allowable over the cited art for at least the reasons recited above regarding claim 1 from which the claims depend.

F. Summary

For at least the reasons cited above, Applicant submits that all claims are in condition for allowance. Favorable reconsideration is respectfully requested.

Applicant respectfully requests a one-month extension of time to respond to the Office Action dated February 18, 2009. A fee authorization form is enclosed for the extension of time fee. If any further extension of time is required, Applicant hereby requests the appropriate extension of time. If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5310-09300/EBM

Respectfully submitted,



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